

Claims

[c1] A method for providing autonomic identification of an important message addressed to a recipient email subscriber, comprising:

scanning an email message received over a network, said scanning operable for identifying a Uniform Resource Locator contained in said email message; and

if a Uniform Resource Locator is found:

comparing said Uniform Resource Locator with contents of a history file, said history file storing a listing of Uniform Resource Locators previously accessed by said recipient email subscriber;

performing analytics for said Uniform Resource Locator based upon said contents of said history file, said performing analytics resulting in a rating assigned to said Uniform Resource Locator; and

if said rating meets a minimum standard set for qualifying said Uniform Resource Locator as relevant:

flagging said email message; and

forwarding said email message with a flag to said recipient email subscriber.

[c2] The method of claim 1, further comprising:

forwarding said email message without a flag to said recipient email subscriber if at least one of:
a Uniform Resource Locator has not been found; and
a rating fails to meet said minimum standard set for qualifying said Uniform Resource Locator as relevant.

- [c3] The method of claim 1, further comprising:
updating contents of said history file to include said Uniform Resource Locator found as a result of said scanning.
- [c4] The method of claim 1, wherein said performing analytics for said Uniform Resource Locator based upon contents of said history file includes at least one of:
evaluating frequency in which said recipient email subscriber accessed said Uniform Resource Locator;
evaluating how recently said recipient email subscriber accessed said Uniform Resource Locator; and
evaluating said Uniform Resource Locator in context with relevance rules established by said recipient email subscriber.
- [c5] The method of claim 4, wherein said relevance rules include at least one of:
assigning relevance to a specific Uniform Resource Locator;
establishing limits on a number of Uniform Resource Lo-

cators qualified to be relevant;
applying weighting factors to specific types of Uniform Resource Locators; and
applying weighting factors to Uniform Resource Locators based upon measurements of usage and time factors.

- [c6] The method of claim 1, wherein said flagging said email message includes associating said email message with at least one of a:
 - letter symbol;
 - number symbol;
 - pictorial symbol;
 - audio symbol; and
 - color symbol.
- [c7] The method of claim 1, further comprising deploying process software for providing said autonomic identification of an important message addressed to a recipient email subscriber, said deploying comprising:
 - installing said process software on at least one server;
 - identifying server addresses for users accessing said process software on said at least one server;
 - installing a proxy server if needed;
 - sending said process software to said at least one server and copying said process software to a file system of said at least one server;
 - sending the process software to at least a first client

computer; and
executing said process software on said first client computer.

- [c8] The method of claim 7, wherein said installing said process software further comprises:
determining if programs will reside on said at least one server when said process software is executed;
identifying said at least one server that will execute said process software; and
transferring said process software to storage for said at least one server.
- [c9] The method of claim 7, wherein said sending said process software to said first client computer further includes having said at least one server automatically copy said process software to said first client computer, and running an installation program at said first client computer to install said process software on said first client computer.
- [c10] The method of claim 7, wherein said sending said process software to said first client computer further comprises identifying a user and an address of said first client computer.
- [c11] The method of claim 7, wherein said sending said pro-

cess software to said first client computer includes sending said process software to at least one directory on said first client computer.

- [c12] The method of claim 7, wherein said sending said process software to said first client computer includes sending said process software to said first client computer via e-mail.
- [c13] The method of claim 1, further comprising integrating process software for providing said autonomic identification of an important message addressed to a recipient email subscriber, said integrating comprising:
 - determining if said process software will execute on at least one server;
 - identifying an address of said at least one server;
 - checking said at least one server for operating systems, applications, and version numbers for validation with said process software, and identifying any missing software applications for said at least one server that are required for integration;
 - updating said at least one server with respect to any operating system and application that is not validated for said process software, and providing any of said missing software applications for said at least one server required for said integration;
 - identifying client addresses and checking client comput-

ers for operating systems, applications, and version numbers for validation with said process software, and identifying any software applications missing from said client computers that are required for integration; updating said client computers with respect to any operating system and application that is not validated for said process software, and providing any missing software application for said client computers required for said integration; and
installing said process software on said client computers and said at least one server.

- [c14] The method of claim 1, further comprising on demand sharing of process software for providing said autonomic identification of an important message addressed to a recipient email subscriber, said on demand sharing comprising:
 - creating a transaction containing unique customer identification, requested service type, and service parameters;
 - sending said transaction to at least one main server;
 - querying said at least one main server about processing capacity associated with said at least one main server to help ensure availability of adequate resources for processing of said transaction; and
 - allocating additional processing capacity when additional

capacity appears needed to process said transaction, said additional processing capacity being selected from the group of additional capacities consisting of central processing unit capacity, processor memory capacity, network bandwidth capacity, and storage capacity.

- [c15] The method of claim 14, further comprising recording a plurality of usage measurements selected from the group of usage measurements consisting of network bandwidth, processor memory, storage, and central processing unit cycles.
- [c16] The method of claim 15, further comprising: summing said usage measurements; acquiring at least one multiplicative value associated with said usage measurements and with unit costs; and recording any such acquired multiplicative value as an on demand charge to a requesting customer.
- [c17] The method of claim 16, further comprising at least one of:
 - posting said on demand charge on a web site if requested by said requesting customer; and
 - sending said on demand charge via e-mail to said requesting customer's e-mail address.
- [c18] The method of claim 16, further comprising charging

said on demand charge to said requesting customer's account if an account exists and if said requesting customer has selected a charge account payment method.

- [c19] The method of claim 1, further comprising deploying, accessing, and executing process software for providing said autonomic identification of an important message addressed to a recipient email subscriber, said deploying, accessing, and executing process software implemented through a virtual private network, the method further comprising:
 - determining if a virtual private network is required;
 - checking for remote access to said virtual private network when it is required;
 - if said remote access does not exist, identifying a third party provider to provide secure, encrypted connections between a private network and remote users;
 - identifying said remote users; and
 - setting up a network access server operable for downloading and installing client software on desktop computers for remote access of said virtual private network;
 - accessing said process software;
 - transporting said process software to at least one remote user's desktop computer; and
 - executing said process software on said at least one remote user's desktop computer.

- [c20] The method of claim 19, further comprising:
determining if said virtual private network has a site-to-site configuration for providing site-to-site access, and if said virtual private network is not so available, installing equipment required to establish a site-to-site configuration for said virtual private network; installing large scale encryption into said site-to-site virtual private network; and accessing said process software through said site-to-site configuration with large scale encryption.
- [c21] The method of claim 20, wherein said accessing said process software further comprises at least one of:
dialing into said network access server, and attaching directly via a modem into said network access server, said modem being selected from the group of modems consisting of telephone dial-up modems, cable modems, DSL modems, and wireless modems.
- [c22] A storage medium encoded with machine-readable computer program code for providing autonomic identification of an important message addressed to a recipient email subscriber, said storage medium including instructions for causing a computer to implement a method, comprising:
scanning an email message received over a network, said

scanning operable for identifying a Uniform Resource Locator contained in said email message; and if a Uniform Resource Locator is found: comparing said Uniform Resource Locator with contents of a history file, said history file storing a listing of Uniform Resource Locators previously accessed by said recipient email subscriber; performing analytics for said Uniform Resource Locator based upon said contents of said history file, said performing analytics resulting in a rating assigned to said Uniform Resource Locator; and if said rating meets a minimum standard set for qualifying said Uniform Resource Locator as relevant: flagging said email message; and forwarding said email message with a flag to said recipient email subscriber.

- [c23] The storage medium of claim 22, further comprising instructions for causing said computer to implement: forwarding said email message without a flag to said recipient email subscriber if at least one of: a Uniform Resource Locator has not been found; and a rating fails to meet said minimum standard set for qualifying said Uniform Resource Locator as relevant.
- [c24] The storage medium of claim 22, further comprising instructions for causing said computer to implement:

updating contents of said history file to include said Uniform Resource Locator found as a result of said scanning.

- [c25] The storage medium of claim 22, wherein said performing analytics for said Uniform Resource Locator based upon contents of said history file includes at least one of:
 - evaluating frequency in which said recipient email subscriber accessed said Uniform resource Locator;
 - evaluating how recently said recipient email subscriber accessed said Uniform resource Locator; and
 - evaluating said Uniform Resource Locator in context with relevance rules established by said recipient email subscriber.
- [c26] The storage medium method of claim 25, wherein said relevance rules include at least one of:
 - assigning relevance to a specific Uniform Resource Locator;
 - establishing limits on a number of Uniform Resource Locators qualified to be relevant;
 - applying weighting factors to specific types of Uniform Resource Locators; and
 - applying weighting factors to Uniform Resource Locators based upon measurements of usage and time factors.

[c27] The storage medium of claim 22, wherein said flagging said email message includes associating said email message with at least one of a:

- letter symbol;
- number symbol;
- pictorial symbol;
- audio symbol; and
- color symbol.

[c28] The storage medium of claim 22, further comprising instructions for causing said computer to deploy process software for providing autonomic identification of an important message addressed to a recipient email subscriber, wherein deployment of process software comprises:

- installing said process software on at least one server;
- identifying server addresses for users accessing said process software on said at least one server;
- installing a proxy server if needed;
- sending said process software to said at least one server and copying said process software to a file system associated with said at least one server;
- sending said process software to at least a first client system;
- executing said process software on said first client system;

determining if programs will reside on said at least one server when said process software is executed; identifying said at least one server that will execute said process software; and transferring said process software to storage for said at least one server.

- [c29] The storage medium of claim 28, wherein said installing said process software further comprises:
determining if programs will reside on said at least one server when said process software is executed;
identifying said at least one server that will execute said process software; and
transferring said process software to storage for said at least one server.
- [c30] The storage medium of claim 28, wherein said sending said process software to said first client system includes having said at least one server automatically copy said process software to said first client system, and running an installation program at said first client system to install said process software on said first client system.
- [c31] The storage medium of claim 28, wherein said sending said process software to said first client computer further comprises identifying a user and an address of said first client computer.

- [c32] The storage medium of claim 28, wherein said sending said process software to said first client computer includes sending said process software to at least one directory on said first client computer.
- [c33] The storage medium of claim 28, wherein said sending said process software to said first client computer includes sending said process software to said first client computer via e-mail.
- [c34] The storage medium of claim 22, further comprising instructions for causing said computer to integrate process software for providing autonomic identification of an important message addressed to a recipient email subscriber, wherein integration comprises:
 - determining if said process software will execute on at least one server;
 - identifying an address of said at least one server;
 - checking said at least one server for operating systems, applications, and version numbers for validation with said process software, and identifying any missing software applications for said at least one server that are required for integration;
 - updating said at least one server with respect to any operating system and application that is not validated for said process software and providing any of said missing

software application for said at least one server required for said integration; identifying client addresses and checking client systems for operating systems, applications, and version numbers for validation with said process software, and identifying any software applications missing from said client systems that are required for integration; updating said client systems with respect to any operating system and application that is not validated for said process software, and providing any missing software application for said client systems required for said integration; and installing said process software on said client systems and said at least one server.

[c35] The storage medium of claim 22, further comprising instructions for causing said computer to implement on demand sharing of process software operable for providing autonomic identification of an important message addressed to a recipient email subscriber, said on demand sharing of process software including:

creating a transaction containing a unique customer identification, requested service type, and service parameters;

sending said transaction to said at least one server;

querying said at least one server about processing ca-

pacity associated with said at least one server to help ensure availability of adequate resources for processing of said transaction; and allocating additional processing capacity when additional capacity is needed to process said transaction, said additional processing capacity being selected from the group of additional capacities consisting of central processing unit capacity, processor memory capacity, network bandwidth capacity, and storage capacity.

- [c36] The storage medium of claim 35, further comprising instructions for causing said computer to implement: recording a plurality of usage measurements selected from the group of usage measurements consisting of network bandwidth, processor memory, storage, and central processing unit cycles.
- [c37] The storage medium of claim 36, further comprising instructions for causing said computer to implement: summing said usage measurements; acquiring at least one multiplicative value associated with said usage measurements and with unit costs; and recording any such acquired multiplicative value as an on demand charge to a requesting customer.
- [c38] The storage medium of claim 37, further comprising instructions for causing said computer to implement at

least one of:

posting said on demand charge on a web site if requested by said requesting customer; and sending said on demand charge via e-mail to said requesting customer's e-mail address.

- [c39] The storage medium of claim 37, further comprising instructions for causing said computer to implement: charging said on demand charge to said requesting customer's account if an account exists and if said requesting customer has selected a charge account payment method.
- [c40] The storage medium of claim 22, further comprising instructions for causing said computer to implement deploying, accessing, and executing process software for providing autonomic identification of an important message addressed to a recipient email subscriber through a virtual private network, said deploying, accessing, and executing process software including:
 - determining if a virtual private network is required;
 - checking for remote access to said virtual private network when it is required;
 - if said remote access does not exist, identifying a third party provider to provide secure, encrypted connections between a private network and remote users;
 - identifying said remote users;

setting up a network access server for downloading and installing client software on desktop computers for remotely accessing said virtual private network; accessing said process software; transporting said process software to at least one remote user's desktop computer; and executing said process software on said at least one remote user's desktop computer.

- [c41] The storage medium of claim 32, further comprising instructions for causing said computer to implement:
 - determining if said virtual private network has a site-to-site configuration for providing site-to-site access, and if said virtual private network is not so available, installing equipment required to establish a site-to-site configuration for said virtual private network;
 - installing large scale encryption into said site-to-site virtual private network; and
 - accessing said process software through said site-to-site configuration with large-scale encryption; wherein said accessing said process software includes at least one of:
 - dialing into said network access server; and
 - attaching directly via a modem into said network access server, said modem being selected from the group of modems consisting of telephone dial-up modems, cable

modems, DSL modems and wireless modems.

[c42] A message analysis system for providing autonomic identification of an important message addressed to a recipient email subscriber, comprising:
an email application and web browser executing on a client system, said client system associated with said recipient email subscriber;
a message analysis system in communication with said client system, said message analysis system comprising:
a graphical user interface;
a history file storing Uniform Resource Locators previously accessed by said recipient email subscriber; and
an analytic engine operable for evaluating relevance of an incoming email message addressed to said recipient email subscriber based upon a Uniform Resource Locator contained in said incoming email message;
at least one business rule operable for defining relevance of said Uniform Resource Locator;
a link to at least one server operable for transmitting web pages over said network; and
a means for flagging incoming email messages determined to be relevant by said message analysis system.

[c43] The system of claim 42, wherein said at least one business rule is created by said recipient email subscriber.

- [c44] The system of claim 42, wherein said at least one business rule is determined by said message analysis system.
- [c45] The system of claim 42, wherein said incoming email message determined to be relevant by said message analysis system is flagged with at least one of a:
 - letter symbol;
 - number symbol;
 - pictorial symbol;
 - audio symbol; and
 - color symbol.